

Abstract for the Busan IAMAS-IACS-IAPSO Joint Assembly 2025

Climate Action for All

Hoesung Lee President, Carbon Free Alliance Special Ambassador for Carbon Free Energy, ROK Former IPCC Chair

IPCC AR6 Synthesis Report Summary for Policy Makers indicates that "Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damages to nature and people. Vulnerable communities who have historically contributed the least to current climate change are disprportionately affected. Ocean warming and ocean acidification have adversely affected food production from fisheries and shellfish aquaculture in some oceanic. Roughly half of the world's population currently experience severe water scarcity for at least part of the year due to a combination of climatic and nonclimatic drivers. Maintaining the resilience of biodiversity and ecosystem services at a global scale depends on effective and equitable conservation of approximately 30% to 50% of Earth's land, freshwater and ocean areas, including currently nearnatural ecosystems."

However, the world faces an unprecedented combination of climate and energy crisis, and severe economic instability. The pandemic and the war in Ukraine broke down the business-as-usual global supply chains and increased the costs of business operations including energy access. This happened while the climate continued to deteriorate with climate extremes intensifying throughout the world. The global supply chains underpinning the net-zero pathways revealed the high risks of disruption due to the high geographical concentration of critical minerals and their processing capacities. The supply chain risks added to the already deteriorating energy costs and economic security. Major economies have taken actions to reduce supply chain risks which lead to structural changes in energyindustrial systems with consequences for climate policy.

Climate actions will thus be judged by their contribution to reducing energy costs and economic instability. Adaptation investment produces climate resilience and economic security in a much shorter time frame than mitigation investment where its climate 2 benefit is long-term and global while its costs are immediate and local. Climate action should favor adaptation more than mitigation unless a stronger call for ambitious emissions reductions is materialized. This seems unlikely, given the structural changes occurring world-wide in the energy-industry systems. Preserving and enhancing the integrity of the ocean and cryosphere should remain as high priority for the world.